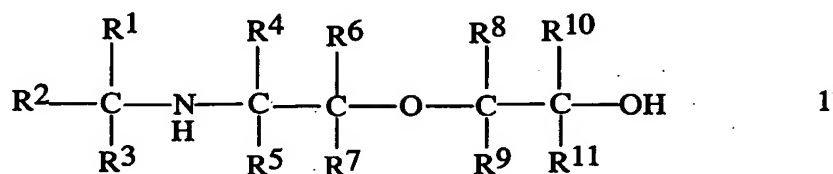


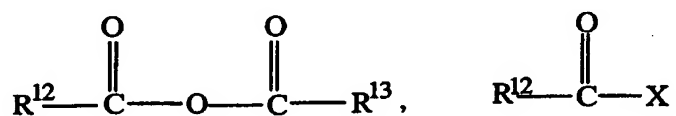
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## CLAIMS:

1. A method for the synthesis of severely sterically hindered secondary aminoether alcohols of the formula

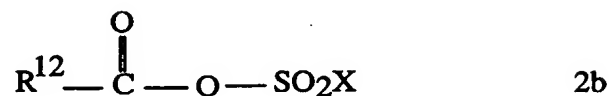
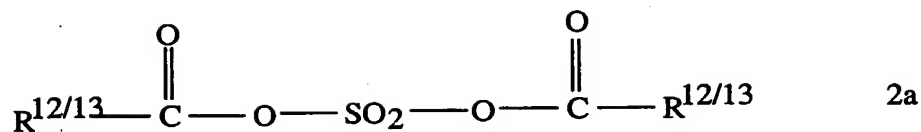


wherein  $R^1$  and  $R^2$  are each selected from the group consisting of alkyl, hydroxylalkyl radicals having 1 to 4 carbon atoms or in combination with the carbon atom to which they are attached they form a cycloalkyl group having 3 to 8 carbon atoms, and  $R^3$  is selected from the group consisting of hydrogen, alkyl or hydroxyalkyl radicals having 1 to 4 carbon atoms, and  $R^4$ ,  $R^5$ ,  $R^6$ ,  $R^7$ ,  $R^8$ ,  $R^9$ ,  $R^{10}$  and  $R^{11}$  are the same or different and are selected from the group consisting of hydrogen, alkyl and hydroxyalkyl radicals having 1 to 4 carbons provided that at least one of  $R^4$  or  $R^5$  bonded to the carbon atom directly bonded to the nitrogen atom is an alkyl or hydroxyalkyl radical when  $R^3$  is hydrogen, the process involving reacting an organic carboxylic acid anhydride, an organic carboxylic acid halide, or mixture thereof, of the general formula

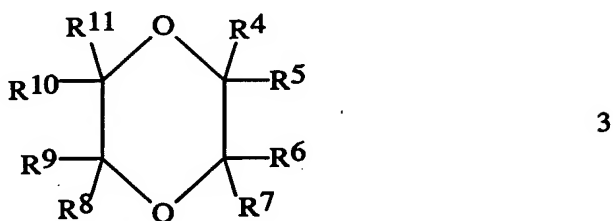


wherein  $R^{12}$  and  $R^{13}$  are the same or different and each is selected from the group consisting of alkyl radicals having 1 to 4 carbon atoms, aryl radicals having hydrogen or  $C_1$ - $C_{10}$  alkyl radicals substituted therein, and mixtures thereof, and X is a halogen selected from the group consisting of F, Cl, Br, I, and mixtures thereof, with sulfur trioxide,  $SO_3$ , to yield a mixed sulfonic-carboxylic anhydride or (mixed anhydride) sulfonyl halide anhydride of formula (2)

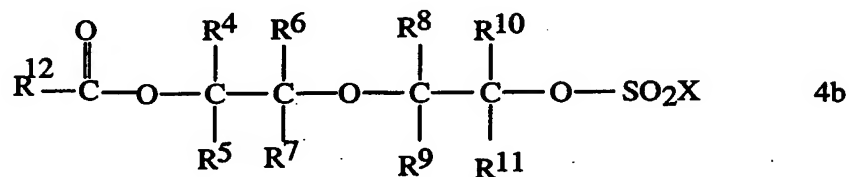
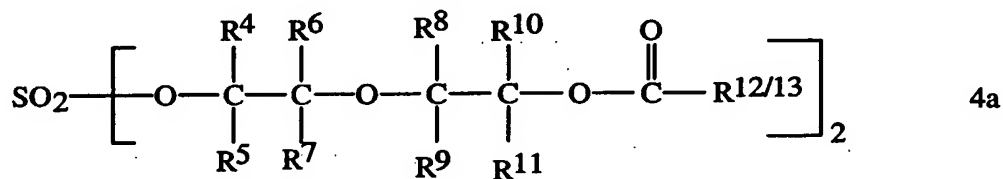
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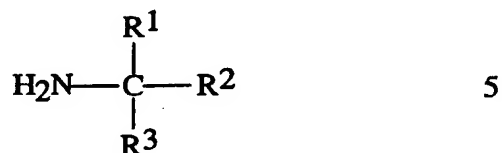
which is reacted with a dioxane of formula (3)



wherein  $\text{R}^4, \text{R}^5, \text{R}^6, \text{R}^7, \text{R}^8, \text{R}^9, \text{R}^{10}$  and  $\text{R}^{11}$  are the same or different and are selected from hydrogen, alkyl and hydroxyalkyl radicals having 1 to 4 carbons, to yield

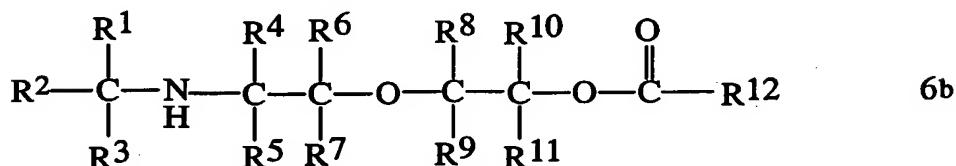
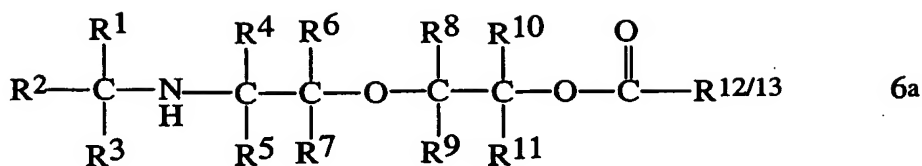


which is then aminated with an alkylamine of the formula



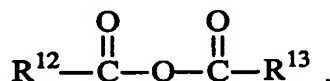
wherein  $\text{R}^1, \text{R}^2$  and  $\text{R}^3$  are as previously defined, to yield (6)

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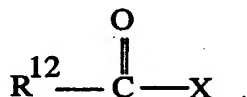


which is subsequently hydrolyzed with base to yield product (1).

2. The method of claim 1 for the synthesis of severely sterically hindered secondary aminoether alcohols using an organic carboxylic acid anhydride of the general formula



3. The method of claim 1 for the synthesis of severely sterically hindered secondary aminoether alcohols using an organic carboxylic acid halide of the general formula



4. The method according to any one of the preceding claims wherein  $R^1$ ,  $R^2$  and  $R^3$  are methyl radicals.

5. The method according to any one of the preceding claims wherein  $R^4$ ,  $R^5$ ,  $R^6$ ,  $R^7$ ,  $R^8$ ,  $R^9$ ,  $R^{10}$  and  $R^{11}$  are hydrogen.

6. The method according to any one of the preceding claims wherein  $R^{12}$  and  $R^{13}$  are the same or different and are selected from the group consisting of methyl radical and phenyl with hydrogen or methyl in the para position.

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7. The method according to any one of the preceding claims wherein the base is selected from alkali metal hydroxide, alkali metal alkoxide, or alkali metal carbonate.

8. The method according to any one of the preceding claims wherein R<sup>1</sup>, R<sup>2</sup> and R<sup>3</sup> are methyl and R<sup>4</sup>, R<sup>5</sup>, R<sup>6</sup>, R<sup>7</sup>, R<sup>8</sup>, R<sup>9</sup>, R<sup>10</sup> and R<sup>11</sup> are hydrogen.

9. The method according to any one of the preceding claims wherein the anhydride or acid halide and the SO<sub>3</sub> are reacted at a temperature between about -70° to about 50°C, the resulting mixed sulfonic-carboxylic anhydride or mixed anhydride sulfonyl halide anhydride (product 2) and the dioxane are reacted at a dioxane to product 2 molar ratio of from about 1:1 to about 10:1 at a temperature of between about 50°C to about 200°C to produce a cleavage product, the cleavage product and the alkylamine are reacted at an amine to cleavage product ratio ranging from about stoichiometric to about 10:1 at a pressure from about atmospheric (1 bar) to about 100 bars at a temperature of from about 40°C to about 200°C, the resulting aminated product being reacted with base at a temperature from about 20°C to about 110°C.

10. The method according to any one of the preceding claims wherein the mixing of the anhydride, acid halide, or mixtures thereof, the SO<sub>3</sub> and the dioxane is combined in a single step, the reaction mixture being heated at a temperature of between about 50°C to about 200°C to produce a cleavage product, the cleavage product and the alkylamine being reacted at an amine to cleavage product ratio ranging from about stoichiometric to about 10:1 at a pressure from about atmospheric (1 bar) to about 100 bars at a temperature of from about 40°C to about 200°C, the resulting aminated product being reacted with base at a temperature from about 20°C to about 110°C.